



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0328; Directorate Identifier 2014-NE-07-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Rolls-Royce plc Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Rolls-Royce plc (RR) RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines. This proposed AD was prompted by failure of the intermediate pressure (IP) turbine disk drive arm on an RR RB211 Trent turbofan engine. This proposed AD would require modification of the engine by removing any electronic engine control (EEC) that incorporates EEC software standard prior to version B7.2 and installing an EEC eligible for installation. We are proposing this AD to prevent overspeed failure of the turbine blades or the IP turbine disk, which could lead to uncontained blade or disk release, damage to the engine, and damage to the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Fax: 202-493-2251.

For service information identified in this proposed AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp); or Web site: <https://www.aeromanager.com>. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0328; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England

Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: [wego.wang@faa.gov](mailto:wego.wang@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-0328; Directorate Identifier 2014-NE-07-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD.

### **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2014-0051, dated March 6, 2014 (referred to hereinafter as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

A Trent engine experienced an engine internal fire, caused by combustion of carbon deposits inside the high/intermediate (HP/IP) oil vent tubes. The consequent chain of events resulted in the failure of the IP turbine disk drive arm. Similar engine architecture exists on Trent 800 series engines.

This condition, if not corrected, could lead to uncontained multiple turbine blade failures or an IP turbine disk burst, possibly resulting in damage to, and reduced control of, the aeroplane.

This AD requires incorporating a revised EEC software standard that can prevent an unsafe chain of events that occur subsequent to an internal engine fire. The revised EEC software standard can properly adjust fuel flow, shut down the engine, prevent an overspeed condition, and indirectly extinguish the fire.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0328.

#### **Relevant Service Information**

RR has issued Alert Service Bulletin No. RB.211-73-AH001, dated July 17, 2013. The ASB provides guidance for removal and replacement of the affected EEC.

#### **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of the United Kingdom, and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design. This proposed AD would require modification of the engine by removing any EEC that incorporates EEC software standard prior to version B7.2 and installing an EEC eligible for installation.

### **Costs of Compliance**

We estimate that this proposed AD would affect about 140 engines installed on airplanes of U.S. registry. We also estimate that it would take about 2 hours per product to comply with this proposed AD. The average labor rate is \$85 per hour. Required parts cost about \$170. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$23,800.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States,

or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Rolls-Royce plc:** Docket No. FAA-2014-0328; Directorate Identifier 2014-NE-07-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Rolls-Royce plc (RR) RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines.

**(d) Reason**

This AD was prompted by failure of the intermediate pressure (IP) turbine disk drive arm on an RR RB211 Trent turbofan engine. We are issuing this AD to prevent overspeed failure of the turbine blades or the IP turbine disk, which could lead to uncontained blade or disk release, damage to the engine, and damage to the airplane.

**(e) Actions and Compliance**

Unless already done, within 12 months after the effective date of this AD, remove any electronic engine control (EEC) that incorporates EEC software standard prior to version B7.2 and install an EEC eligible for installation.

**(f) Installation Prohibition**

After modification of an engine as required by paragraph (e) of this AD, do not install an EEC that incorporates a software standard prior to version B7.2 onto any engine.

**(g) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, FAA, may approve AMOCs to this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(h) Related Information**

(1) For more information about this AD, contact Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: [wego.wang@faa.gov](mailto:wego.wang@faa.gov).

(2) Refer to MCAI European Aviation Safety Agency AD 2014-0051, dated March 6, 2014, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2014-0328.

(3) RR Alert Service Bulletin No. RB.211-73-AH001, dated July 17, 2013, pertains to the subject of this AD and can be obtained from Rolls-Royce plc using the contact information in paragraph (h)(4) of this AD.

(4) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp); or Web site: <https://www.aeromanager.com>.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.



Issued in Burlington, Massachusetts, on July 2, 2014.

Carlos A. Pestana,  
Acting Assistant Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

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